

APPENDIX 2

WPDG Grantee Case Studies

- Enhancing Wetland Protection at the Local Level in Massachusetts
- Multi-Agency Coordination on WPDGs in Arkansas
- Strategic Planning of Wetland Protection in Ohio
- Funding Problems Impact Saint Regis Mohawk Tribe's Small Wetland Program

Enhancing Wetland Protection at the Local Level in Massachusetts

Overview

The Massachusetts Department of Environmental Protection ([MassDEP](#)) has over 40 FTE actively involved in the development, refinement and implementation of the state's wetland protection program. MassDEP has one central and four regional offices that conduct wetlands protection activities and coordinate with local municipalities. Both the Massachusetts Wetlands Protection Act (WPA) and an agency strategic plan guide MassDEP's Wetlands Protection Program. MassDEP primarily relies on state tax and bond revenues to operate its wetlands program, but it also uses funding from various EPA grant programs to build capabilities.

While MassDEP conducts numerous program activities, the purpose of this case study is to illustrate a few diverse, yet effective approaches to protecting wetlands in Massachusetts.

- Aerial mapping to identify and reduce wetlands losses; and
- Guidance and outreach to enhance wetlands protection efforts by local communities.

Identifying and Reducing Wetlands Loss

One of primary objectives of MassDEP's wetlands program is to quantify the extent of wetlands losses, identify underlying causes, and take appropriate action to lessen impacts. A key to MassDEP's success on wetlands losses was the delineation and analysis of the state's wetland boundaries in 1990, 2001, and 2005 using aerial photography. MassDEP has been able to utilize aerial maps in conjunction with GIS systems to document the extent and condition of the state's wetlands over time and improve coordination among regulatory programs on wetland and water issues.

The ability to identify specific causes of impact allows MassDEP to adequately respond with "targeted compliance, enforcement, outreach and training to sectors contributing to the greatest losses" ([MassDEP](#)). For example, imagery analysis done in 2001 showed that agricultural and cranberry bog activities accounted for 32 percent of total wetlands loss in the state, so MassDEP targeted this business community to heighten awareness and change industry practices at issue. MassDEP believes its efforts were productive and measurable, as 2005 data showed that wetlands losses caused by the agricultural and cranberry-growing activities decreased to 17 percent of all identified losses. MassDEP also works with representatives of associations in other sectors impacting large portions of wetlands. MassDEP trains these representatives and has been successful in securing their involvement in advisory committees and other forums. MassDEP will continue to collaborate with organizations to "better develop effective wetlands loss prevention strategies" (Lisa Rhodes, MassDEP, 2007).

MassDEP plans to continue aerial mapping every 3 to 5 years, and has begun to use information on wetland loss to identify ways to minimize future impacts. They are in the process of integrating permitting and wetlands loss data to better differentiate between permitted and illegal losses, identify their causes, and take targeted action to prevent future losses. In addition to a Wetland Demonstration Program grant to help accomplish this, MassDEP used two WPDGs to help create a database that tracks impacts to wetlands, including the type, area, and cause of wetland changes over time. These WPDGs have also funded the development of an enforcement and monitoring strategy to curb losses identified through these developments, as well as production of guidance materials meant to help other states to replicate MassDEP's efforts.

Enhancing Wetland Protection at the Local Level in Massachusetts

Enhancing Local Wetlands Conservation Efforts

“Conservation commissions” administer the WPA at the local level by reviewing proposed development projects on a case-by-case basis to assess potential impacts to wetlands ([MA Association of Conservation Commissions](#)). Conservation commissions review approximately 8,500 filings a year that are judged to have a potential impact on wetlands. The volume and complexity of these filings can be challenging to local conservation commissions. MassDEP also hears appeals of decisions made by conservation commissions.

In response to requests from conservation commissions for technical guidance on wetlands issues, including how to better assess potential wetlands impacts and losses, MassDEP initiated the [Wetlands Circuit Rider Program](#) as a pilot project in 1996 with WPDG funding. Now currently relying on state bond funding to pay for Circuit Rider positions, MassDEP staffs one Circuit Rider in each regional office to provide technical assistance and training directly to conservation commissions. While the Wetlands Circuit Rider Program suffered from budget shortages in 2002 and was halted, it was reinstated in 2005 after receiving considerable support from the commissions, environmental groups, and the state's regulated community.

Continuing previous work of the Wetlands Conservancy Program (WCP), MassDEP's wetlands program provides detailed digital wetland inventory information and maps to conservation commissioners, MassDEP regional staff, and Executive Office of Energy and Environmental Affairs (EOEA) Watershed Teams across the state. Made up of representatives from local, state, and federal organizations, EOEA Watershed Teams work to find regional solutions to local problems involving pollution, water supply, and habitat degradation under the [EOEA Watershed Initiative](#). In 2001, MassDEP used WPDG funding to complete the development and distribution of inventory and mapping information for the final 25 percent of the state geography.

Multi-Agency Coordination on WPDGs in Arkansas

The Case for Working Together on WPDG Projects

Like most states, Arkansas has many organizations that play important roles in the protection of wetlands. They rely on WPDGs as a critical source of funding each year. Instead of submitting separate applications for U.S. EPA WPDG funding, multiple Arkansan organizations banded together to create the Multi-Agency Wetland Planning Team (MAWPT) to coordinate on WPDG applications and projects. There are many advantages of multiple agencies working together on WPDGs:

Agencies Involved in the MAWPT

Field Code Changed

- Arkansas Natural Heritage Commission ([ANH](#)C)
- Arkansas Game and Fish Commission ([AGFC](#))
- Arkansas Department of Environmental Quality ([ADEQ](#))
- Arkansas Natural Resource Commission ([ANRC](#))
- Arkansas Forestry Commission ([AFC](#))
- University of Arkansas Cooperative Extension Service ([UACES](#))

- **Better Project Results.** By tapping a deeper pool of knowledge, data and capabilities from six agencies instead of one, the MAWPT finds that it can do a better job on WPDG projects.
- **Greater Chance of Grant Awards.** Only a few organizations in each state usually get WPDG awards in a given year. By submitting multi-agency bids, there is a greater chance of winning a grant by virtue of presenting a deeper team and relying on more people for insights that can strengthen the grant application. The results speak for themselves as the MAWPT, via lead agency ANRC, consistently get WPDGs.¹
- **More Reliable Funding.** Building on the previous point, a greater chance of a WPDG award each year reduces the likelihood of a small agency going through a major gap in funding. For agencies that have only one or two FTE dedicated to building and implementing a wetlands program, any gap in funding can negatively impact personnel turnover and program continuity. The MAWPT is also successful at collectively leveraging state resources having secured several million dollars of state monies to create and interpret digital data, develop information management systems, and support environmental planning activities.
- **Reduced Administrative Burdens.** The smaller the wetlands staff, the larger the administrative burden of annually responding to WPDG RFPs and meeting reporting requirements for WPDG projects. Instead of the six Arkansan agencies each writing WPDG applications, the governor assigned one agency to take the lead on writing grant proposals. The MAWPT agencies collectively dedicate more time to program development and implementation. By giving administrative responsibility to one agency, the state reduced potential interagency disputes regarding funding and was able to manage multiple ongoing projects efficiently and without confusion.
- **Leverage Grant-writing Skills.** Not every one can write a good grant proposal. It's a special skill. The MAWPT jointly develops grant proposals for ANRC to submit to EPA for funding, thereby enabling it to write strong proposals every year. Arkansas has received multiple grants each year from 2001 to 2004.

For over 10 years, MAWPT member agencies have been jointly setting priorities, pooling expertise, assigning tasks and roles within the group, and building Arkansas' capability to monitor, preserve and protect wetlands. By formalizing inter-agency coordination through the creation of the MAWPT, Arkansas has bolstered its ability to efficiently and effectively build its wetlands program.

¹ The Arkansas Natural Resources Commission (ANRC) was formerly known as the Arkansas Soil and Water Conservation Commission.

Multi-Agency Coordination on WPDGs in Arkansas

Background on the MAWPT and Arkansas' Wetlands Strategy

With the help of the U.S. Environmental Protection Agency (EPA) and the Arkansas' Governor's Office in 1992, four state agencies (ANHC, AGFC, ADEQ, and ANRC) formed a steering committee using grant funding from the EPA's WPDG program. The steering committee oversaw a number of 2-year projects aimed at establishing a baseline of regional wetland knowledge, developing conservation approaches, and making statewide policy recommendations. The founding organizations renamed the steering committee as the MAWPT and later grew to include the current roster of five state agencies and an academic institution. The MAWPT "identified the need for a watershed-based approach to statewide wetland conservation due to the diversity of wetland systems and associated impacts unique to Arkansas watersheds."

At the direction of the Governor, the MAWPT and the Arkansas Highway and Transportation Department developed the Arkansas Wetland Strategy in 1997. In addition to setting forth specific goals and action steps, the jointly developed strategy defines and clarifies state agency roles to reduce overlap and promote coordination. The strategy focuses on providing a means to track gains and losses; identify, assess, and prioritize wetlands; and provide education and guidance on multiple issues at both state-wide and watershed levels. Arkansas recognizes that "case-by-case wetland permitting is not an overall conservation strategy," so the MAWPT promotes "voluntary, incentive-based, locally lead conservation planning through implementation of the policy, watershed, and statewide objectives."

"MAWPT involvement has translated into better deliberation of natural resource issues and identification of potential solutions among agencies because MAWPT members were challenged to think beyond their particular agency responsibility."

-Ken Brazil, Engineering Supervisor at ANRC and MAWPT Representative

How does the MAWPT Operate?

Each member agency has at least one representative that performs MAWPT activities as well as their full-time agency functions. The MAWPT receives technical assistance from scientists at universities, federal agencies, and private organizations ([Strategy](#), 1997). Funding for the MAWPT comes primarily from EPA WPDGs (with matching funds from the State of Arkansas). Member ANRC administers WPDGs for the MAWPT and reimburses project lead agencies, when necessary.

The committee meets when necessary for updates and to cooperate on projects. The MAWPT assigns a member agency to lead each project and reaches an agreement regarding the other member agencies that will be responsible for project deliverables. Prior to submitting WPDG proposals, the group agrees on budget allocations for each project. The projects undertaken by the MAWPT align with the goals, priorities, and objectives set forth in the state's wetland strategy.

Multi-Agency Coordination on WPDGs in Arkansas

Arkansas is Making Progress Using WPDG Funding

In the past five years, the MAWPT allocated the majority of WPDG funding towards enhancing Arkansas' tools and capabilities for monitoring wetlands. In its efforts to complete [Wetland Planning Area Reports](#) for each of the state's [5 Wetland Planning Regions](#), the MAWPT used GIS to develop prioritization models to plan restoration activities. The MAWPT developed a hydrogeomorphic (HGM) classification system and functional assessment methods to evaluate wetland conditions.

To facilitate wetland assessments and subsequent restoration activities, the MAWPT published [HGM Functional Assessment Regional Guidebooks](#) for 2 regions. The MAWPT also provides information from its prioritization models and other wetland data to the Arkansas Wetland Research Information Management System ([AWRIMS](#)). This central data repository allows Arkansans to gather information on the location and extent of wetlands being impacted and restored, as well as track those areas subject to permitting or conservation programs.

Lessons and Benefits of a Coordinated Multi-agency Approach

By establishing a means for multiple agencies to collectively bring various capabilities, expertise, and resources to the table, the MAWPT is able to “maximize state wetland conservation planning efforts using limited agency resources”([EPA WPDG Case Studies](#), 2006).

A critical component of the MAWPT's success is its approach to leveraging outside resources. It brought together “wetland experts from various state and federal agencies, universities, and the private sector... in a workshop and a series of field studies...(resulting in)...development of a uniform classification system for the wetlands of the state, identification of high-quality examples of most of the wetland community types in the state, and development of a database containing specific information about selected wetlands.” The MAWPT communicates with wetland programs in other states for guidance and best practices, and pushes for member representatives to attend meetings and conferences dealing with technical and policy issues that may improve the effectiveness of member organizations.

Early on, the MAWPT had an issue with internal competition amongst member agencies when assigning project responsibilities. Because the lead agency was able to receive funding to cover overhead, member agencies had a strong incentive to oversee projects. The MAWPT subsequently discontinued the practice of allocating overhead funding to lead agencies, thereby reducing conflict amongst member agencies. States looking to develop multi-agency workgroups like the MAWPT should be mindful of any policies or rules that undermine cooperation of member agencies.

Strategic Planning of Wetland Protection in Ohio

Overview

This case study describes factors that are important to the success of a mature wetland program. The Ohio Environmental Protection Agency (OEPA) Division of Surface Water (DSW) formed the [Wetland Ecology Group](#) (WEG) in the early 1990s using WPDG funding. WEG provides wetland research, conducts bioassessments, and develops biocriteria to support the regulatory functions of the [401 Water Quality Certification and Isolated Wetland Permit Section](#). Having developed the main components of OEPA's monitoring and assessment program, WEG focuses on enhancing its assistance to the regulatory group and supporting the implementation of OEPA's watershed-based strategy. The use of strategic planning to effectively guide program direction and coordination with internal and external groups is critical to Ohio's development of an effective wetland program.

Strategy-Driven Success

Together with the Division of Drinking and Ground Waters, DSW finished revamping a multiyear [Surface and Groundwater Monitoring and Assessment Strategy](#) in 2005 to address immediate and long-term monitoring and assessment goals and objectives for the state of Ohio for all water body types, including wetlands. OEPA closely followed the elements of a monitoring program framework described in EPA's 2003 [Elements of a State Monitoring and Assessment Program](#) guidance document.

To supplement the DSW strategy, WEG drafted an internal memorandum to upper-level management describing WEG's plans and capabilities to support the 401 Water Quality Certification and Isolated Wetland Permit Section. The WEG provided an "incremental justification" of what it could accomplish with various levels of additional staffing. The WEG's staffing analysis gives time frames for achieving the goal of including wetlands in a fully implemented statewide watershed-level biosurvey program.

Coordination and Cooperation in Developing Ohio's Wetland Program

The WEG attributes much of its success to input from parties both within and external to the OEPA. Internally, the WEG resides with the regulatory staff, readily affording wetland ecologists access to personnel involved in permitting, enforcement, and mitigation activities. The WEG provides technical assistance to permit reviewers, on the use of monitoring and assessment tools, mitigation review, and enforcement cases. WEG ecologists sometimes turn to 401 personnel for help on doing fieldwork. The 401 Water Quality Certification and Isolated Wetland Permit Section's regulatory and enforcement input also helps to guide the WEG's development of more applied, results-oriented program components and tools. The WEG's development of tools and methodologies benefited from access to and input from other OEPA groups that support Ohio's wetland program.

The WEG also benefits from interactions with organizations and personnel outside of OEPA. For example, members of WEG participated in the Biological Assessment of Wetlands Workgroup ([BAWWG](#)), a group of 36 federal, state and academic scientists from around the country that met between 1997 and 2002. The objective of the BAWWG was to improve methods and tools for evaluating the biological integrity of wetlands. The WEG attributes its successful development of a rapid assessment method to ideas and input from BAWWG members. BAWWG discussions also jumpstarted the concept of adapting stream Indices of Biotic Integrity (IBIs) for wetlands use.

Strategic Planning of Wetland Protection in Ohio

The WEG continues to participate in various forums to share ideas and concepts related to wetlands. In addition to OEPA hosting the 2003 Region 5 State and Tribal Wetlands Protection Program and Technical Training Meeting, the WEG used a portion of 2003 WPDG funding to hold multiple 'BAWWG-style' meetings in Ohio to support technical interaction on wetlands issues in Region 5.

Progress Made Using WPDG Funding

Consistent with Ohio's monitoring strategy, WEG has been working on ways to integrate assessments of wetlands and flowing waters at a watershed level. This goal of developing wetland protection within a watershed approach aligns with U.S. EPA's 'Basic Elements of a Water Resource Program'. WPDG funding has played a substantial role in the WEG's development of wetland profiles, wetland condition assessment techniques, and specific protocols for watershed level assessments.

Other WPDGs have helped OEPA better track and evaluate Ohio's isolated wetland permit program, including assessing the ecological quality of Ohio's mitigation banks. The WEG works with 401 Water Quality Certification and Isolated Wetland Permit Section to apply biological criteria in the mitigation of wetlands to a level that is more comparable to the natural wetlands they replace.

OEPA used WPDG funding in the early 1990s to initially develop wetland Water Quality Standards (WQS). The WEG is in the process of revising Ohio WQS, and has invited the public, interest groups, and others to provide input via a series of public meetings. As with most efforts to include stakeholders, OEPA hopes to address potential misconceptions and concerns so that the revised WQS will be approved by the state legislature.

Funding Problems Impact Saint Regis Mohawk Tribe's Small Wetland Program

Background on Funding Sources

This case study focuses on the implications of funding shortfalls on tribes and states with small wetland program staffs. The case study also describes advances made by St. Regis in the development of its wetland protection program during those years in which WPDG funding was available.

In the past five years, the [Saint Regis Mohawk Tribe](#) ("St. Regis") made significant progress in building its Wetlands Protection Program. Annual WPDG awards by the U.S. EPA from 2003 through 2006 were the primary source of funding that St. Regis used to build its capability to protect tribal wetlands. St. Regis also relied on alternative funding sources made available to tribes by the U.S. Government.

Wetland Funding Sources Used by St. Regis

- [US Environmental Protection Agency](#)
 - [Wetland Program Development Grants](#)
- [US Fish and Wildlife Service](#)
 - [Tribal Landowner Incentive Program](#) (awarded 2004)
 - [Tribal Wildlife Grant](#) (awarded 2005)
- [Bureau of Indian Affairs](#)
 - Noxious Weed Eradication Program (awarded 2003)

In 2007, St. Regis did not receive a WPDG award. Other sources of funding could not make up the shortfall and St. Regis does not have a tax base to tap for its wetland program. Furthermore, St. Regis could not qualify for some sources of funding. For example, St. Regis applied for a U.S. EPA State/Tribal Environmental Outcome Wetland Demonstration Program Pilot Grant, but was ineligible for award because funding is restricted to program *implementation* only – not program *development*.

Implications of Funding Shortfalls

Small, developing wetland protection programs tend to heavily rely on grant funding to pay employees. Given that small wetland protection programs usually have only one or two FTEs, any major funding shortfall can essentially shut down a program because key employees cannot be paid. Such was the case with St. Regis. The funding shortfall that St. Regis faced in 2007 points to the many challenges that small, developing wetland programs face when a key employee leaves:

- **Loss of Program Momentum.** Often times, any ongoing activities or initiatives are suspended or worse – abandoned. Even if some can be restarted, there are usually additional costs and other barriers to overcome. For example, the lack of WPDG funding in 2007 forced St. Regis to:
 - Discontinue wetland delineation work;
 - Sharply reduce the evaluation of wetland impacts from development projects;
 - Cancel outreach and education efforts aimed at increasing appreciation within the tribal community of the value of wetlands and the importance of protecting these areas; and
 - Cut back on enhancement projects for valuable wetland areas.

The tribe's Water Resources Program now spends only 1-2 percent of its time on wetland issues. St. Regis continues to examine impacts of development projects on existing wetlands as part of its broader environmental assessment process. The tribe also observes progress towards eradicating exotic species as a result of the intentional release of Purple Loosestribe beetles in impacted wetland areas.

Funding Problems Impact Saint Regis Mohawk Tribe's Small Wetland Program

- **Loss of Institutional Knowledge.** In small shops, the loss of a key employee results in the loss of important institutional knowledge that cannot be readily replaced. Moreover, tenured employees often have professional relationships that they leveraged to reduce barriers to important program initiatives. When such employees depart, those important relationships can no longer benefit the wetland program.
- **Impaired Ability to Attract New Employees.** It is hard to attract the best talent when an organization cannot make assurances about long-term program funding. The single-year nature of the WPDG program presents difficulties in hiring new employees.
- **Loss of Grant-writing Resources and Skills.** Usually, grant-writing responsibilities fall to the one or two people who have primary responsibility for developing a small wetland program. When a key employee leaves, resources for the environmental agency become stretched. Finding someone with the same insights and the necessary time to write a grant proposal becomes more difficult, thereby impairing the organization's ability to secure necessary funding for the following year. This can become a "chicken-and-egg" issue.
- **Increased Administrative Burdens.** In addition to stretching remaining staff in the pursuit of grant funding, the search for replacement employees takes time away from other programs and activities by a state or tribal agency.

These factors have a disproportionate impact on smaller programs that do not have the number of employees or funding stability of large agencies.

Progress Made by St. Regis in Developing a Wetland Protection Program

Faced with a finite amount of land, a growing population and business pressures to develop property, St. Regis wrote a "Wetland Protection Plan" in 1994. This plan guides the Water Resources Program's efforts to develop the St. Regis' wetland protection program. The Plan reflects St. Regis' belief that active community involvement and education of tribal members are keys to the long-term protection of tribal wetlands. At the core of this belief is the recognition that positively influencing attitudes and behaviors is more cost-effective – and affordable -- than a "top-down" regulatory infrastructure for wetlands protection.